BRUNO™
for your independence

# SRE-1550

## *ELECTRA-RIDE™ II STAIRWAY ELEVATOR*

**Technical Service email: service@bruno.com**
**www.bruno.com**

**DEALER:**

# INSTALLATION MANUAL

**MAN-1550-1**
**03-18-2008**

**1780 EXECUTIVE DR., P.O. BOX 84, OCONOMOWOC, WI 53066 USA**
**TELEPHONE:(262) 567-4990**
**FAX: (262) 953-5501**
**1-800-882-8183**

*IMPORTANT NOTES*

The warranty for the Electra-Ride™ II Stairway Elevator is *rendered null and void* if the unit is installed by anyone other than an authorized Bruno dealer.

This stairway elevator is intended **for indoor use only** in a heated, enclosed location **above 35˚ F (2˚ C)**.

Electra-Ride™ is a trademark of Bruno Independent Living Aids, Inc.®. The Electra-Ride™ II, #5,230,405 is covered by one or more U.S. Patents and/or U.S. Patents Pending.

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# SPECIFICATIONS AND REGULATORY INFORMATION

## *CSA CERTIFICATION*

208135 C US

The "C" and "US" indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/ UL Standards, for use in Canada and the U.S., respectively. This "US" indicator includes products eligible to bear the "NRTL" indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.

This lift is intended to be installed in accordance with the current editions of the National Electric Code NFPA-70 and applicable sections of ANSI/ASME A18.1.

## *MATERIAL SAFETY DATA SHEETS*

Material safety data sheets (MSDS) on materials used on this unit may be requested through the Bruno Technical Service Department.

## *SPECIFICATIONS*

| | |
|---|---|
| Weight Capacity: | 350 lbs. (159 kg) |
| Variable Speed: | 0 to 38 feet per minute (0 to12 m/mn) |
| Power Source : | two (2) 12-volt sealed, maintenance-free batteries with 24-volt continuous-duty charger |
| Motor: | 24 VDC, 2-pole, 1.02 hp |
| Drive: | self-locking gearbox, rack and pinion drive |
| Control: | constant pressure (armrest and two remotes) |
| Brake: | self-locking worm gear |
| Maximum Incline: | 45 degrees |
| Rail: | steel channel with integral drive gear rack |
| Seat Swivel: | 0, 45, and 90 degrees, both directions, at top and at bottom of rail |
| Power Supply: | 24 VDC battery charger powered by 120V wall outlet |

This unit is covered by one or more US Patents and/or has U.S. Patents Pending.

# CARTON CONTENTS

The ***ELECTRA-RIDE™ II*** is shipped in 5 cartons. Check the contents of the cartons against the list below to be sure you have all of the components *before* beginning an installation. Report any discrepancies to Bruno Independent Living Aids immediately.

Also, check the carton contents for shipping damage upon receipt. Damage claims must be filed by the **dealer,** not the manufacturer. Bruno Independent Living Aids cannot be held responsible for shipping damage.

**CARRIAGE BOX**

(1) complete carriage assembly
(4) Velcro® strips (2.5" ea.)
(2) call/send transmitters
(2) mounting plates, call/send transmitters

(1) ***call/send transmitters with hardware kit***
(2) SRE-K-2701 residential transmitters
---or---
(2) SRE-K-0055A commercial call/send transmitters

**INSTALLATION BOX**

(1) tube white lithium grease
(1) final limit switch ramp assembly
(2) bumper assemblies

(1) ***SRE-K-1553 bumper assembly parts kit***

(10) 11" lg wire ties
(32) sheet metal screws (m 6.3 x 50 mm)(16' rail);
(40) for (20' rail)

clamp sets:

- 9 (**16' rail**) • 11 (**20' rail**) • 13 (**24' rail**)
- TBD** (**custom rail**)
  **depends upon rail length
- *upon request*: clamps, adjustable, 9 lbs. ea.

(1) ***SRE-K-1501 electrical parts kit***

**SEAT BOX**

(1) seat assembly
(1) footrest assembly
(1) battery charger

**RAIL BOX**

(1) ea. rail section ***

**RAIL BOX WITH JOINT PLATE**

(1) ea. rail section ***
(1) ea. joint plate

(1) ***SRE-K-1502 hardware kit (joint plate)***

*****NOTE: Rail sections must have matching numbers stamped on the sections.**


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# INSTALLATION

## Necessary Tools

**Be sure you have all necessary parts and tools *before* traveling to installation site.**

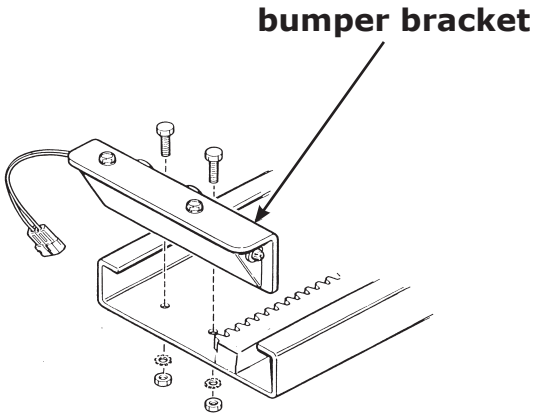
**NOTE: THE STANDARD STAIRWAY ELEVATOR IS SUITABLE FOR STAIRWAY ANGLES UP TO 45 DEGREES.**

- protractor level, builder's level
- socket set, metric (10 mm through 22 m)
- ratchet, with 6" extension
- combination wrench set, metric (22 mm through 36 mm)
- Phillips screwdrivers
- slotted screwdrivers
- Allen wrenches, metric (4 mm minimum size)
- electric drill with letter `O' (.316") and 1/4" bit
- hacksaw with 2 or 3 blades, or metal cutting bandsaw
- 20' tape measure
- small rubber mallet
- C-clamp
- flashlight
- 5/16" open-end wrench
- needle nose pliers
- scissors or knife
- extension cord
- double-sided foam tape
- file
- 12" adjustable wrench
- additional hardware for installation on floor surface(s) other than wood

  Bruno ships the Stairway Elevator with fasteners appropriate for *WOODEN STAIR TREADS ONLY*.

  Other stair material may require different fasteners. Please contact Bruno Independent Living Aids, Inc. for information.

## ASSEMBLY
## Residential and Commercial Units




***This rail must be installed 1/2" to 1" above stair nosing.***

***Otherwise, footrest will hit the steps, causing intermittent operation.***

1. Determine whether a left- or right-side installation is appropriate for the site. "Left" or "right" refers to the side of the stairway on which the rail is installed (as viewed from the bottom of the stairs).

   *Unless otherwise specified Bruno Stairway Elevators are shipped from the factory in the left-side configuration.*

   Conversion to right-side installation is easy (instructions included later in this manual).

2. Identify and locate lower rail section appropriate to the installation (left or right).

### *LOWER BUMPER BRACKET INSTALLATION*

1. Assemble the bumper bracket to the lower rail.

### *FITTING THE RAIL*

1. Determine the correct length for the rail by measuring along a straight line placed on the stairs. (SEE STEP 2 IN THE APPLICATION GUIDE, next page) To that amount, add Measurement B (STEP 4 IN THE APPLICATION GUIDE). This process will allow you to custom fit the elevator to your customer by determining the most comfortable seat-to-floor height within the space available at the top of the stairs.

*NOTE: The rail must rest approximately 1/2" to 1" above nosing of the steps and extend from the lower floor to a point beyond the nosing of the top step (see Application Guide Step 4).*

*In some cases where the bottom landing is made of material such as concrete, ceramic tile or slate, the last bracket on the landing may be omitted with a bracket added on the second step from the bottom and top of stairway.*

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# INSTALLATION

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*1780 Executive Drive, P.O. Box 84, Oconomowoc, WI 53066 USA*
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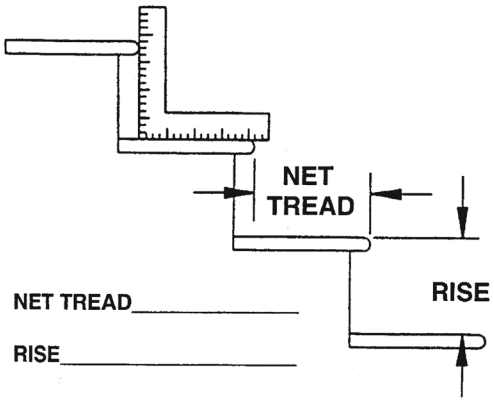
## STRAIGHT STAIRWAY ELEVATOR APPLICATION GUIDE

***Dealer No.:*** _____ ***P.O. No.*** _____ ***Customer:*** _____ ***Date:*** _____

## Step 1: Determine Staircase Angle




| RISE | NET TREAD | | | | | | |
|---|---|---|---|---|---|---|---|
| | 12" | 11" | 10" | 9" | 8" | 7" | 6" |
| 6" | 27 | 29 | 31 | 34 | 37 | 41 | 45 |
| 7" | 30 | 33 | 35 | 38 | 41 | 45 | |
| 8" | 34 | 36 | 39 | 42 | 45 | | |
| 9" | 37 | 39 | 42 | 45 | | | |
| 10" | 40 | 42 | 45 | | | | |
| 11" | 43 | 45 | | | | | |
| 12" | 45 | | | | | | |

NOTE: ANGLES ABOVE ARE ROUNDED TO THE NEXT DEGREE. FOR ANGLES ABOVE 45 DEGREES, CONSULT BRUNO FOR SPECIAL ORDER DETAILS.

## Step 2: Define Stairway Dimensions and Details

***stair tread material*** _____ ***staircase width***
_____
(32" min. for standard unit)

***lower landing material***_____ ***obstructions***_____
(ex. handrails, moldings)

***upper landing material***_____

## Step 3: Specify Chair and Rail Details

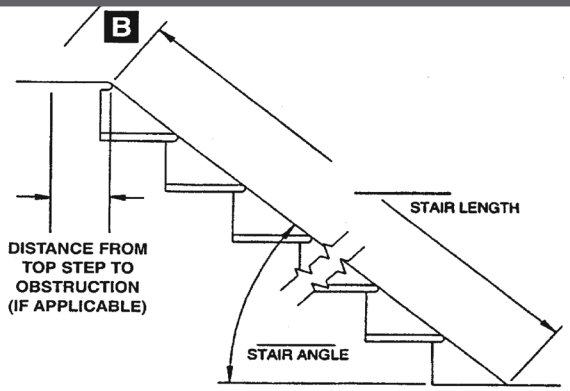
***hand*** (looking from bottom of stairs):
☐ left ☐ right

***chair upholstery***
☐ tan vinyl ☐ tan fabric
☐ other (specify) _____

***additional options***
☐ keyswitch on chair
☐ keyed call/send transmitters
☐ commercial/overspeed package

*Refer to Step 3 on following pages.*

## Step 4: Determine Rail Length




**DETERMINE THE STAIR LENGTH:** _____
**ADD "B" TOP RAIL EXTENSION:**_____
*PLEASE REFER TO "STEP 4" ON THE FOLLOWING PAGE FOR DETAILS.*
**Overall Rail Length Required:** _____
**16' STOCK** _____ **20' STOCK** _____
**CUSTOM CUT RAIL**_____

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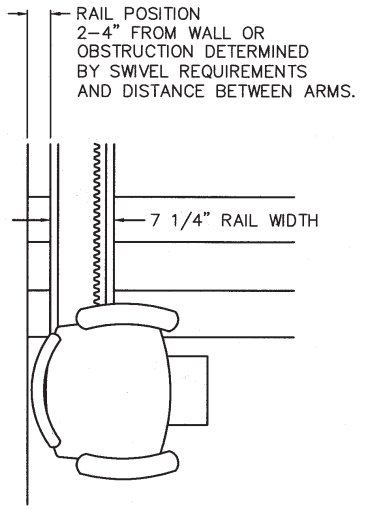
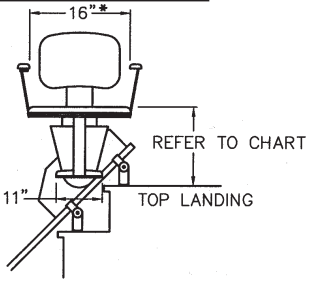
## Step 3: SRE-1550 ELECTRA-RIDE™ APPLICATION DETAILS

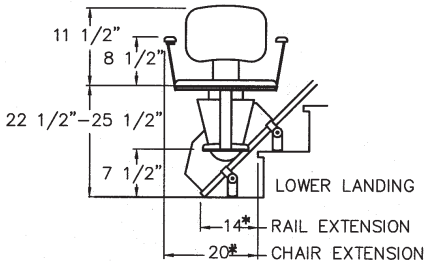
### TOP VIEW




### FRONT VIEWS

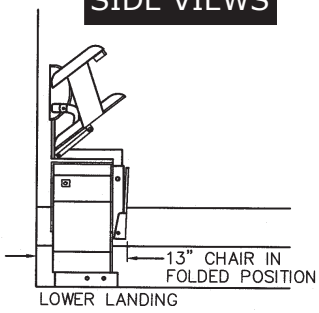


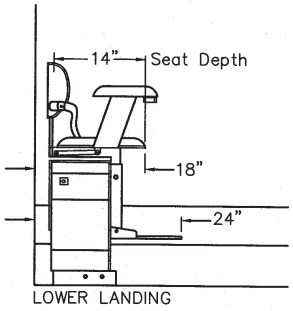

* DISTANCE BETWEEN ARMS IS ADJUSTABLE TO 20 INCHES.




* LOWER LANDING EXTENSION DIMENSIONS ARE BASED ON 40 DEGREE RAIL SLOPE AND 8" 1ST RISER HEIGHT, DIMENSIONS WILL VARY BASED ON SLOPE AND RISER HEIGHT.

### SIDE VIEWS




ALL DIMENSIONS SHOWN ARE BASED ON A WALL TO RAIL DIMENSION OF 3".

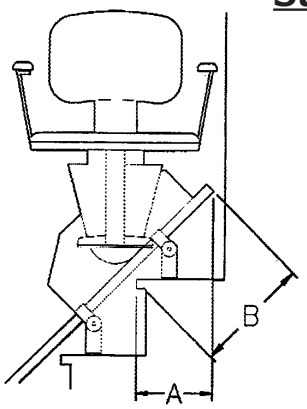
**UPPER LEVEL ENTRY/EXIT SEAT HEIGHT IN INCHES**

| | 17" | 18" | 19" | 20" | 21" | 22" | 23" | |
|---|---|---|---|---|---|---|---|---|
| 35 ° | 5.7 | 6.8 | 8.0 | 9.1 | 10.4 | 11.5 | 12.6 | A |
| | 6.9 | 8.3 | 9.7 | 11.1 | 12.6 | 14.0 | 15.4 | B |
| 36 ° | 5.5 | 6.4 | 7.8 | 9.0 | 10.1 | 11.4 | 12.5 | A |
| | 6.8 | 8.2 | 9.6 | 11.1 | 12.5 | 14.0 | 15.4 | B |
| 37 ° | 5.3 | 6.5 | 7.7 | 8.8 | 10.0 | 11.2 | 12.3 | A |
| | 6.6 | 8.1 | 9.6 | 11.0 | 12.5 | 14.0 | 15.4 | B |
| 38 ° | 5.2 | 6.3 | 7.5 | 8.7 | 9.9 | 11.1 | 12.2 | A |
| | 6.5 | 8.0 | 9.5 | 11.0 | 12.5 | 14.0 | 15.4 | B |
| 39 ° | 4.9 | 6.2 | 7.3 | 8.5 | 9.7 | 10.9 | 12.1 | A |
| | 6.3 | 7.9 | 9.4 | 10.9 | 12.4 | 14.0 | 15.5 | B |
| 40 ° | 4.8 | 5.9 | 7.2 | 8.3 | 9.5 | 10.8 | 11.9 | A |
| | 6.2 | 7.7 | 9.3 | 10.8 | 12.4 | 14.0 | 15.5 | B |
| 41 ° | 4.6 | 5.8 | 7.0 | 8.2 | 9.4 | 10.6 | 11.8 | A |
| | 6.0 | 7.6 | 9.2 | 10.8 | 12.4 | 14.0 | 15.6 | B |
| 42 ° | 4.5 | 5.7 | 6.9 | 8.1 | 9.4 | 10.6 | 11.8 | A |
| | 5.9 | 7.5 | 9.1 | 10.7 | 12.4 | 14.0 | 15.6 | B |
| 43 ° | 4.2 | 5.4 | 6.6 | 7.9 | 9.0 | 10.3 | 11.5 | A |
| | 5.7 | 7.4 | 9.0 | 10.7 | 12.3 | 14.0 | 15.7 | B |
| 44 ° | 4.0 | 5.2 | 6.4 | 7.7 | 8.9 | 10.1 | 11.3 | A |
| | 5.5 | 7.2 | 8.9 | 10.6 | 12.3 | 14.0 | 15.7 | B |
| 45 ° | 3.8 | 5.0 | 6.3 | 7.5 | 8.7 | 10.0 | 11.2 | A |
| | 5.3 | 7.1 | 8.8 | 10.6 | 12.3 | 14.1 | 15.8 | B |

DIMENSIONS ON CHART ARE WITH THE CHAIR IN THE LOWEST POSITION 22-1/2".

IF "A" is < 3" or "B" is > 12", then one or more adjustable clamp sets (SRE-00361) are required.

## Step 4




The chair extends approximately 3–4" beyond the rail at the upper landing.

ALTERNATE SEAT HEIGHT DIMENSIONS

Measured @ Lower Level:
23.5", 24.5", 25.5"
Reduce B by 1.5" for each inch the seat height is increased.

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# INSTALLATION

***CUTTING THE RAIL-Residential and Commercial Units***

## *NEVER CUT OFF THE JOINT END!*

The M6 bolts securing the gear rack ***must*** remain intact.

Cut off the end with the pre-drilled charge contact mounting holes.

Then, using the provided template, redrill (2) holes on each end of the rail.

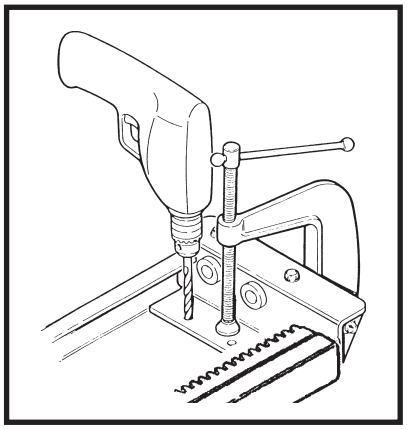
**IMPORTANT NOTE!**

**Under no circumstances should a rail section be cut shorter than 18" (46 cm). There must be at least (2) clamps on a short rail section (one at the rail joint and one at the rail end). Cutting a rail shorter than 18" (46 cm) would not allow enough room for the (2) necessary clamps.**

***Example:***

**After measuring the staircase, you determine you need 9 feet of rail. From your (2) 8-foot sections you decide to use (1) 8-foot section and cut the remaining one foot from the second 8-foot section. Doing this could yield a rail piece with *insufficient weld*.**

**Instead, Bruno recommends cutting at least one foot off one of the 8-foot sections (leaving 7 feet of rail) and then cutting two feet from the second 8-foot section. You will have a (1) 7-foot section and (1) 2-foot section, both of which are long enough to be properly mounted (2 clamps minimum per short rail).**



**USE "O" SIZE DRILL BIT (8.03mm/.316")**

1. Use a metal-cutting power saw or manual hacksaw to cut the rail to length.

   *Cut off the end of the rail to be located at the top of the stairway*.

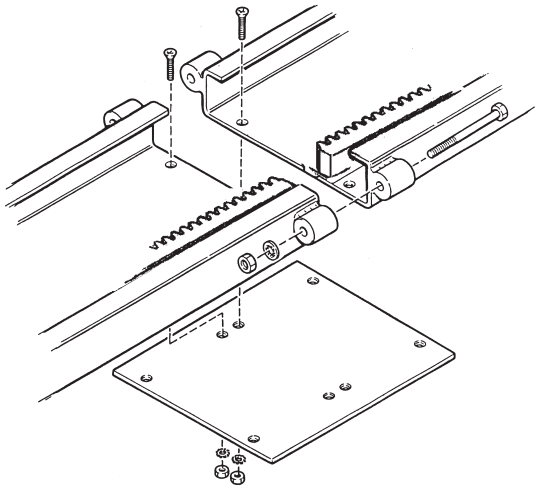
2. Use a file or other appropriate tool to deburr the cut end of the rail. Soften any sharp edges which might abrade the insulation of the wiring to be routed to the bumper at the end of the rail.
3. Use a C-clamp to hold the upper bumper bracket in place in the cut end of the rail.
4. Use the holes in the bumper bracket as guides to drill mounting holes. Use an O-size (8.03 mm/.316") drill bit in the rail.

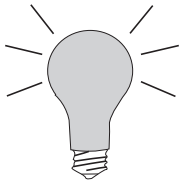
***RAIL JOINT ASSEMBLY-Residential and Commercial Units***

**NOTE**

**Always install the rail with the gear rack towards the center of the stairs and the gear teeth facing wall.**

**NOTE**
**The chamfered edges of the holes must face "up" toward the bottom of the rail.**





Once two sections of rail are installed, and before installing the carriage, run a plomb line along the rail. If the rail bows, insert shims or readjust clamps.

1. Assemble the rail joint by attaching the bottom plate to the rail with the screws, lock washers and hex nuts provided with the unit.
2. Install the bolts, internal-tooth washers and hex nuts through the joint blocks on both sides of the rail.
3. Tighten all bolts securely and make sure screw heads are flush with the surface of the inside of the rail.

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# INSTALLATION

***POSITIONING FOOT CLAMP ASSEMBLIES-Residential and Commercial Units***

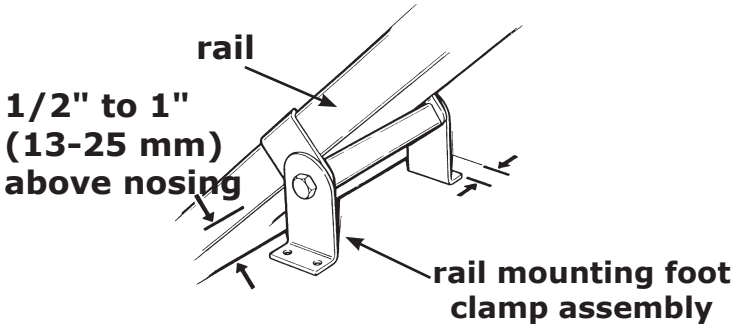
- ***Install foot clamps at least 1-1/2" (38 mm) from wall.***
- ***Provide additional clearance if seat needs to swivel against wall.***
- ***Before securing all clamps, run carriage assembly up and down stairway to check seat clearance over the entire travel length.***

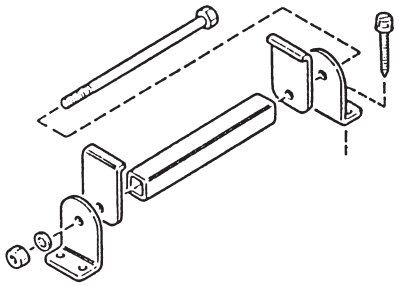
***Foot Clamp Placement***

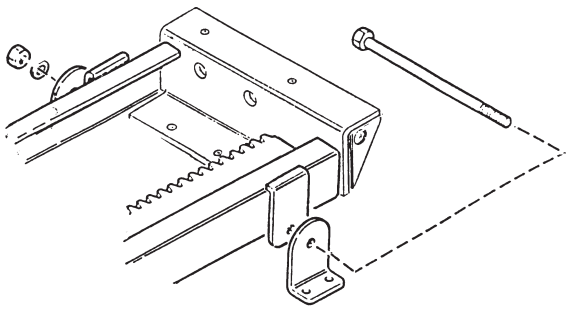
- bottom landing
- first tread up from bottom landing
- top landing
- first tread down from top landing
- closest tread above and below rail joint(s)
- minimum of every third tread over the remainder of the staircase.

***NOTE:*** *If top or bottom clamp is omitted because the landing is cement or ceramic tile, or if the owner wishes not to drill holes in the landing, a set of clamps should be added on the second-to- last step and at the top of stairway.*

1. Install rail mounting foot clamps in the placement pattern shown to the left.
   ***Leave a minimum space of 1-1/2" (38 mm) from the wall.***
2. For ease of installation, finger tighten all clamps to rail.
   *Position the clamp assembly so the nut is closest to the wall.*
3. Slide top and bottom clamps down until firmly seated on step. When installing on carpeted stairs, tap the clamps with a rubber mallet to compress carpet and cushion before anchoring to steps.
4. Securely install one screw near the wall on the top and bottom of foot of clamp assemblies. This will enable the installer to change the position of the rail if necessary and prevent drilling excess holes.





If threaded fastener extends below a stair tread that is exposed, it can be trimmed flush with pliers.

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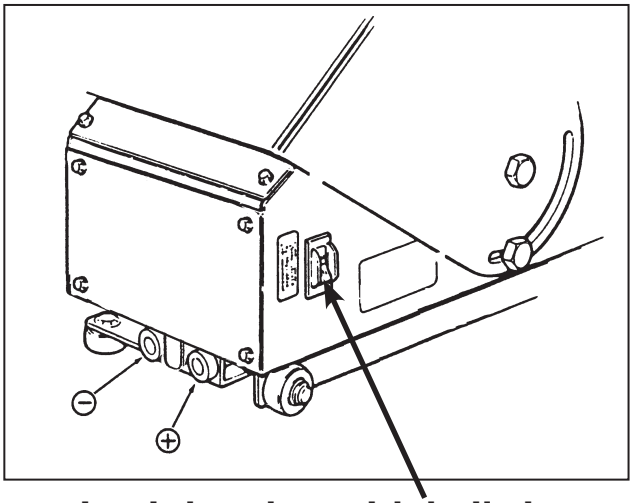
### *MOUNTING CARRIAGE ON UPPER RAIL*
### *Residential and Commercial Units*

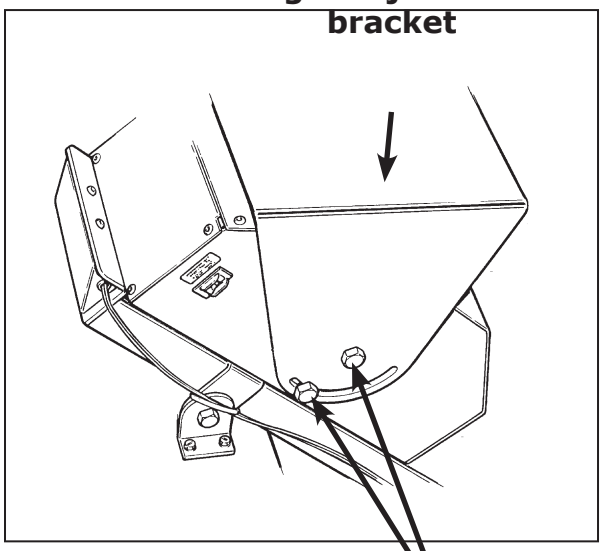


**circuit breaker with built-in ON/OFF switch**

1. Turn toggle switch off. When facing the front of the unit, remove the left motor cover.
2. Slide the carriage into the rail until the spur gear rests on the gear rack.
3. Manually turn the motor pulley to fully engage the entire carriage inside the upper rail.

### *ADJUSTING THE CARRIAGE ANGLE*
### *Residential and Commercial Units*

**angle adjustment bracket**



**angle adjustment bolts**

1. Adjust the carriage angle by loosening the angle adjustment bolts. Level the angle adjustment bracket, using a standard builder's level or protractor level.
2. When the angle adjustment bracket is level, securely tighten all four angle adjustment bolts*.

   **TORQUE RATING = 70 LB-FT**

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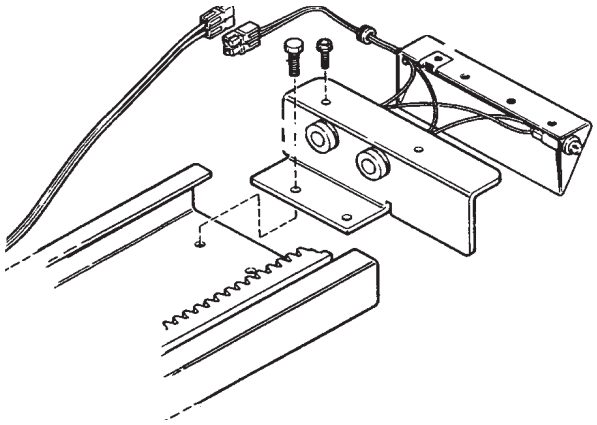
# INSTALLATION

### *UPPER BUMPER BRACKET*



1. Install the upper bumper bracket to rail.
2. Before tightening the bracket, check to make sure that the bumper wires are not trapped under the bumper bracket at the lower landing.
3. Tighten the bracket.

### *CONNECTING THE BATTERY CHARGER AND ROUTING THE WIRING HARNESS*

*After routing the wire harness out of sight, a small piece of double sided foam tape can be applied to the harness plugs for attachment under the rail.*

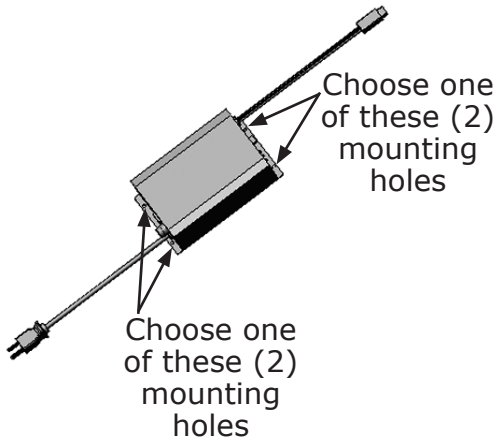
*Note: If the charger plug and wire are located in a vulnerable location, use of a plug lock is recommended to prevent accidental unplugging. Plug locks are available at hardware and department stores.*

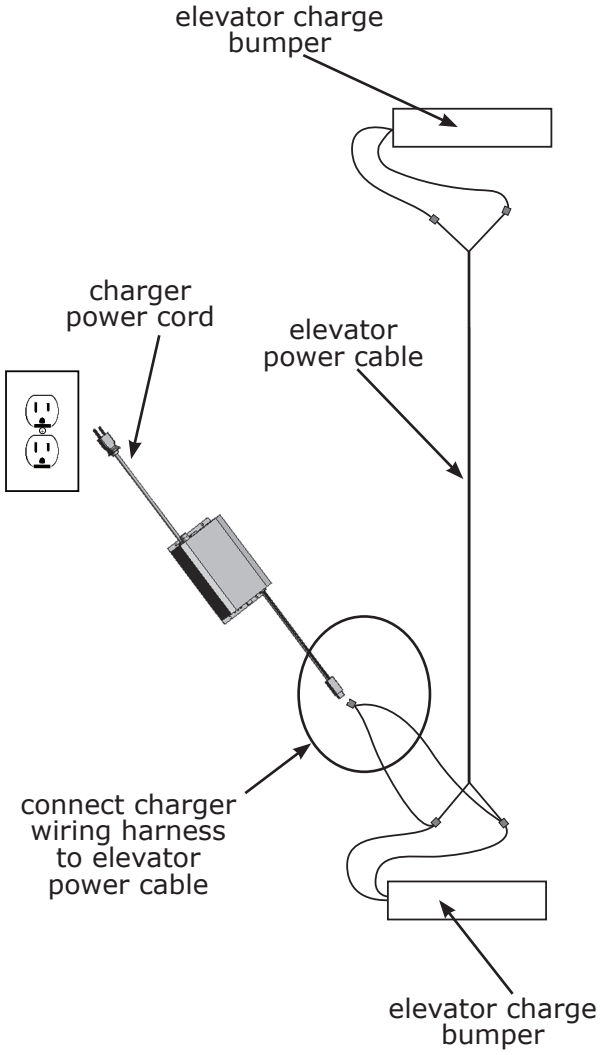
1. Position the charger in a suitable permanent location ***where it will not create a tripping hazard.***
2. Route the battery charger wiring harness along the back side of the rail.
3. Secure this harness to the rail clamps with wire ties or double-sided tape (see note to left).

   *Be sure that this wiring is mounted securely to avoid damage.*

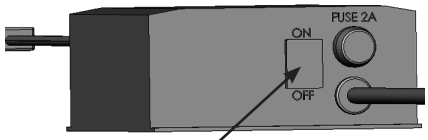
4. Secure the charger in the chosen location (Step 1) by inserting (2) screws (provided) through the mounting holes in the charger base.

   *NOTE: There are (2) mounting holes on each side of the charger base. Choose one of the two on each side.*




elevator charge bumper
charger power cord
elevator power cable
connect charger wiring harness to elevator power cable
elevator charge bumper

5. Connect the charger power cord to the nearest wall or floor outlet.
6. Connect the charger wiring harness to the elevator power cable.
7. Bundle together loose wires.
8. Turn ON the charger power switch.




*charger power switch*

***NOTES:***

- The charger should be plugged into a household outlet all of the time.
- The elevator is designed so that the batteries will be charged when the carriage is at either end of the rail.
- It is imperative that the carriage be "parked" at the end of the rail when it is not in use to maintain full battery charge.
- If the stairway elevator cannot be parked at one end of the rail (for example, on stairways with a door at the top), use the remote call/send transmitter to send the carriage to the other end. In this way, the carriage will properly engage the charging contacts, ensuring that the batteries will remain fully charged.

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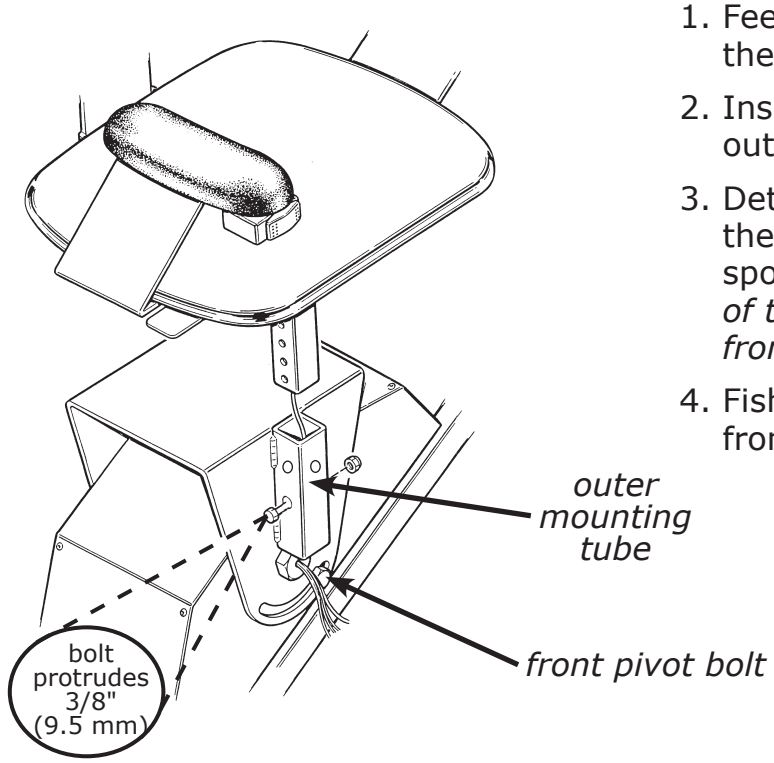
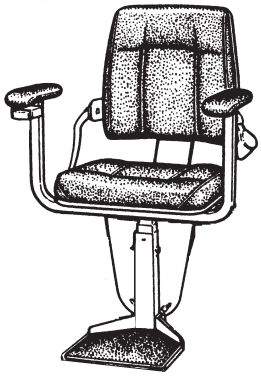
# INSTALLATION

***INSTALLING THE SEAT ASSEMBLY***
***Residential and Commercial Units***

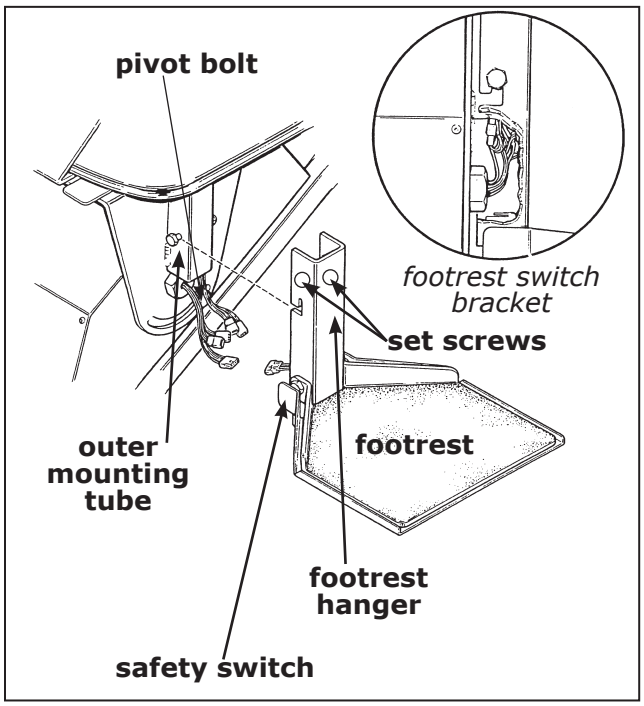



1. Feed the five-conductor lead through the hollow tube under the seat.
2. Insert the seat frame post into the outer mounting tube.
3. Determine the correct seat height, then insert the bolt in the corresponding hole. *Make sure the head of the bolt protrudes 3/8" (9.5 mm) from the mounting tube.*
4. Fish the excess wires into the hole on front pivot bolt.



***Optional Large Seat with Fixed Arms (1540 Style)***

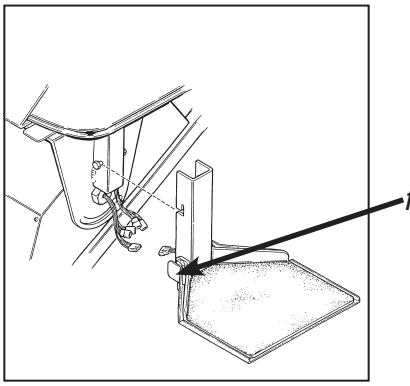
### *FOOTREST ASSEMBLY-Residential and Commercial Units*




*DO NOT PINCH THE WIRES WHILE SLIDING THE FOOTEST OVER THE BOLT.*

1. Connect the wires as shown to the right.
2. Tuck the excess wires in the footrest hanger just above the footrest switch bracket, and below where the outer mounting tube would sit.
3. While holding the wires in place, bring the footrest close to the carriage, near the pivot bolt, and tilt the footrest slightly while raising it up and over the bolt until it is engaged in the slot.
4. Tighten the bolt, then the (2) set screws at the top of the footrest post (see illustration below) to completely secure the seat post.

### *SAFETY SWITCHES-Residential and Commercial Units*

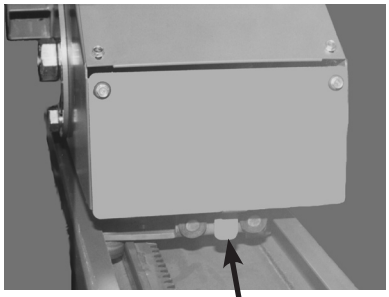


*footrest safety switch (one also located on other side)*

Safety switches are located on each side of the footrest, and on each side of the carriage.

The ***footrest safety switches*** will stop the elevator if they contact an object as the unit moves up/down the rail.

1. Confirm correct operation of the footrest safety switches by moving the sliding tray (BOTH SIDES) while operating the elevator.



*carriage safety switch (one also located on other side)*

The ***carriage safety switches*** (one on each side of the carriage) stop the elevator when the unit reaches the end of the rail.

1. Confirm correct operation of the carriage safety switches by running the elevator to the top and bottom of the rail.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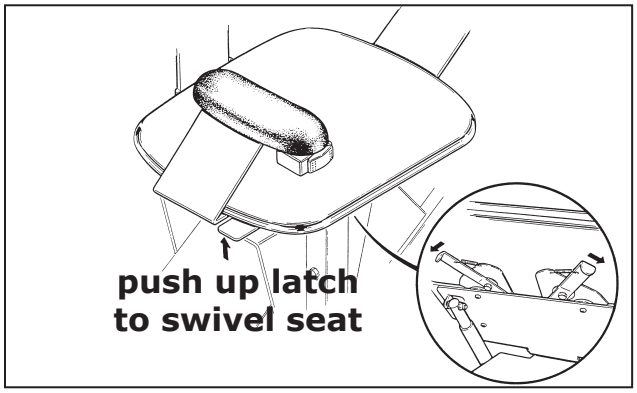
# INSTALLATION

***SEAT SWIVEL AND ARM ROTATION-Residential and Commercial Units***



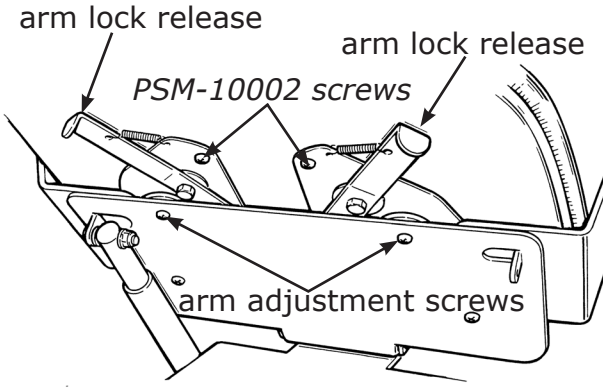

1. Fold the seat up when the Elevator is not in use.
2. To unfold the seat when ready to use the Elevator, simply push down the seat, or the arm rest.

   *The swivel latch located directly under the seat allows the seat to rotate in 45-degree increments.*
3. To disengage the latch, lift up on either the right or left lever found at the front edge of the seat.
4. Release the lever to lock the seat in place.
5. Push the arm lock lever to rotate the arm up to 90 degrees for easy transfer.

   *The arm then can be rotated back to its original position.*

   *The arm locks in place automatically when the latch re-engages.*

***ARM ADJUSTMENT-Residential and Commercial Units***

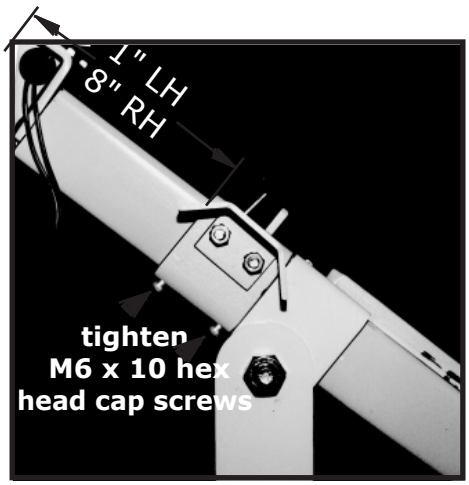



If you are not adjusting the arm, skip to Step No. 4.

1. To adjust to a wider setting, loosen the arm adjustment screws on the bottom of the seat (see left).
2. Rotate the arm out to the desired position.
3. Tighten the arm adjustment screws.
4. Screw (2) PSM-10002 into the seat bottom to lock the armrest in place.

***If extending the arms to maximum width, be sure to adjust the rail-to-wall distance to compensate for the increased angle of rotation.***

### *FINAL LIMIT SWITCH AND ACTUATION RAMP*
### *Residential and Commercial Units*




Measure the distance from the end of the rail to the inside edge of the actuation ramp.

The final limit switch and actuation ramp assembly is safety features which enhance the stopping capability of the Elevator.

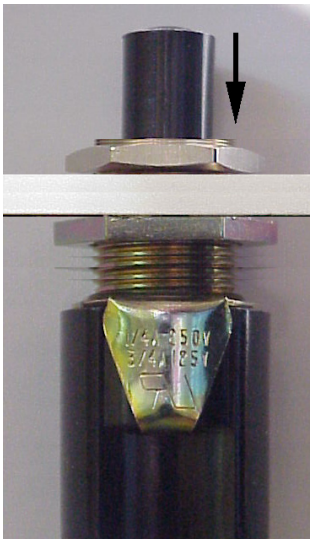
1. Mount the actuation ramp to the side of the rail, 1" (25 mm) from the top of the rail in a LEFT-HAND installation.

   In a RIGHT-HAND installation mount the ramp 8" (203 mm) from the top end of the rail.
2. Tighten M6 X 10 hex head screws on bottom of ramp.
3. The limit switches on the end of the carriages require adjustment (see illustration below).

***FAILURE TO ADJUST LIMIT SWITCHES WILL INTERFERE WITH UNIT CHARGING .***

- **Lengthen** the switch on the **upper end** of the carriage.

- *Shorten* the switch on *the lower end* of the carriage.



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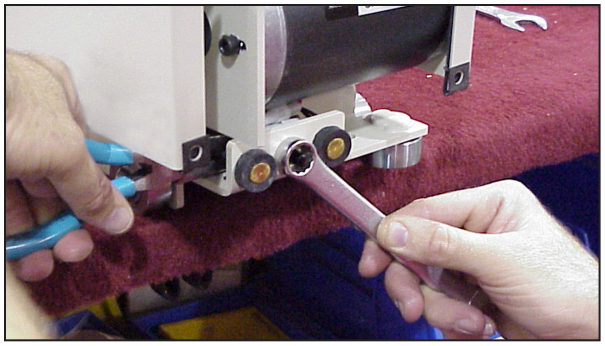
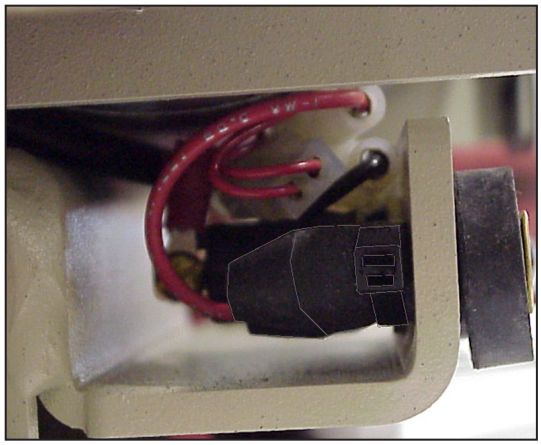
# INSTALLATION



limit switch adjustment



charge contact

**Make sure contacts make solid contact with rail end when carriage stops at top or bottom of rail.**

1. Remove the seat.
2. Remove the carriage from the rail.
3. To adjust the limit switches, remove the covers and rotate the angle adjustment bracket weldment, if necessary, to access the limit switches.
4. Loosen the limit switches using a 9/16" box wrench on the outside nut and a 5/8" open end wrench on the inside nut.

   *It may also be necessary to use a pair of needle nose pliers*.
5. To access the limit switch on the motor side, it may be necessary to remove the charge contact assembly.
   a. Remove wire tie on the charge contact.
   b. Slide the charge contact out of the way, *being careful to keep wires connected*.
   c. Remove the outer nut on the limit switch.
   d. Slide the limit switch out to provide access to the inside nut for adjustment.
   e. Tighten and reinstall parts.
   f. Replace covers.
   g. Adjust the angle adjustment bracket.
   h. Replace unit on rail.
   i. Test that the unit charges correctly.

# RESIDENTIAL

## INFRARED CALL/SEND TRANSMITTER

The call/send system on the Bruno SRE-1550 is based on infrared (IR) controls.

Like a television remote, the SRE-1550 hand-held transmitter may experience certain types of interference. Receivers are mounted on both sides of the SRE-1550 carriage to minimize interference.

Should interference occur, the unit will stop. This feature has been integrated into the SRE-1550 to ensure your safety.

The direct line between the transmitter to either of the (2) transmitters should be clear of obstacles for optimal operation.

It may be necessary to reposition the transmitters so that they are aimed at the carriage.

To reduce the possibility of interference:

- While riding in the seat, ALWAYS operate the Elevator using the rocker switch on the armrest.

  *Operating the SRE-1550 with a transmitter while riding in the seat can lead to signal interference.*

- DO NOT mount the transmitters behind an obstacle such as a rail post.
- DO NOT allow direct sunlight to shine on the receivers (blinding the receivers on the carriage).
- DO replace transmitter batteries regularly.

  *Depleted or nearly-depleted batteries alter the effective range of the transmitter.*

- DO keep the transmitter and receiver lens free of dirt and debris.

  *Use a non-abrasive cleaner suitable for glass or acrylic surfaces.*
  *Do not use polishes or cleaning products containing wax.These products will leave a film on the lens that will reduce the signal transmission range.*

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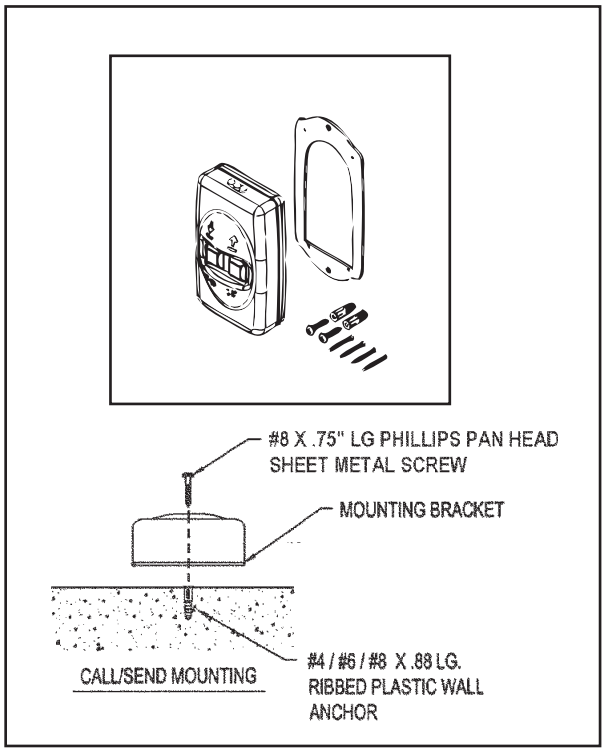
# *CALL/SEND TRANSMITTER-RESIDENTIAL*

## *MOUNTING THE STANDARD INFRARED CALL/ SEND TRANSMITTER*




***Mounting with bracket and hardware:***

1. Mount the bracket to the back of the transmitter using the (4) screws provided.
2. Position the bracket/transmitter unit in the mounting location on the wall and mark the top and bottom bracket holes.
3. Drill a pilot hole slightly smaller than the anchors provided.
4. Gently pound the anchors into the wall with a rubber mallet.
5. Position the bracket/transmitter unit on the wall so that the top/bottom bracket holes align with the anchors.
6. Secure the bracket/transmitter to the wall using the screws provided.

## *TESTING THE CALL/SEND TRANSMITTER*

Soft Start Feature

The controller includes a *soft start* feature which causes a *short delay* between the time the rocker switch on the armrest is depressed and the initiation of carriage movement.

This is normal!

1. Using the rocker switch on the seat armrest, run the unit up and down the rail.

   *NOTE: The unit should travel noticeably faster going up than down.*

2. Check for smooth operation and travel.
3. Now, using one of the remote call/send transmitters, run the unit up and down the rail.
4. Repeat Step 3 with the other transmitter.
5. Check for smooth operation and travel.

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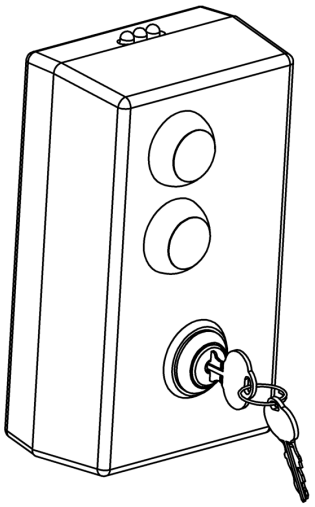
## *CALL/SEND TRANSMITTER-COMMERCIAL*



1. Install the key-controlled call/send transmitters as shown below.

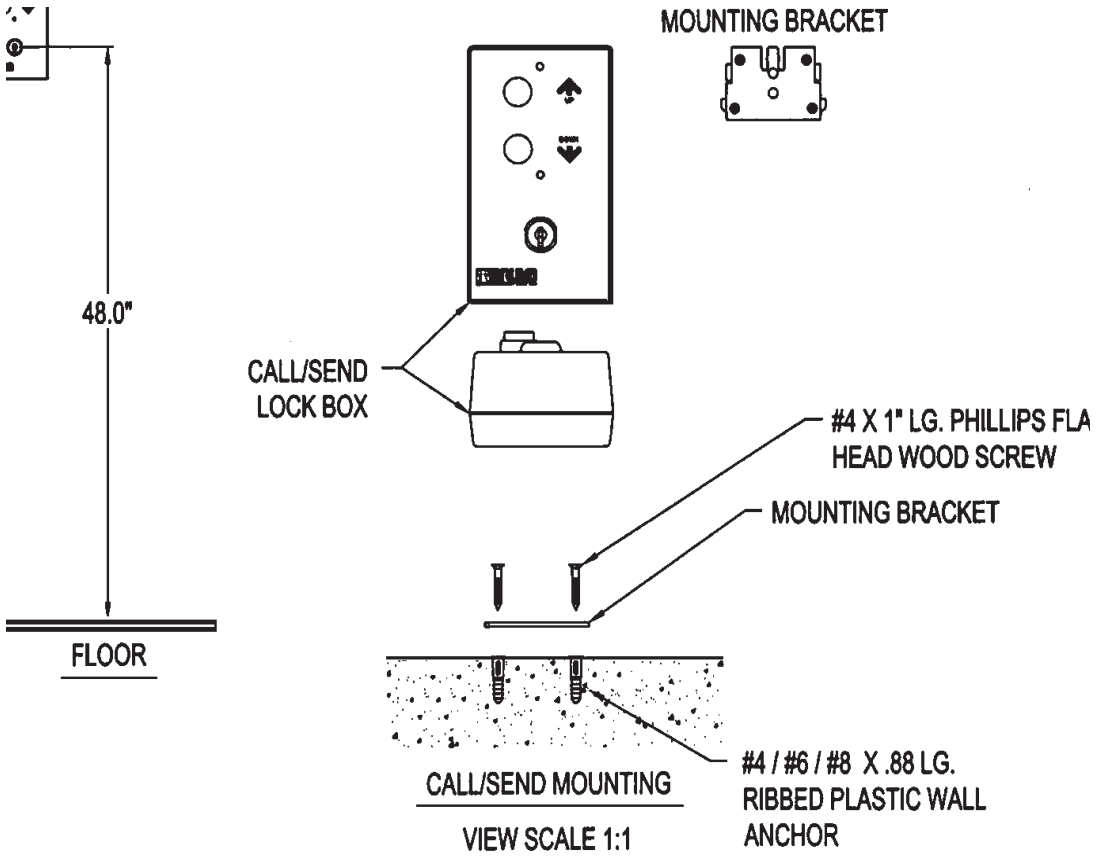
   *The key switch should be approximately 48" (122 cm) from the floor.*

2. Install one transmitter at the top of the stairs, and one at the bottom.

3. The seat key switch and rocker switch are located under the right arm pad (on your right as you are sitting in the seat).

   Please refer to the instructions "Changing Controls From Right to Left Armrest" if the unit will be installed on the right side of the stairway (as viewed from the bottom of the stairs).

**INSTALLLING COMMERCIAL CALL/SEND TRANSMITTER**

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# CIRCUIT BOARD DIAGNOSTICS

The circuit board provided on the SRE-1550 is equipped with (4) diagnostic modes that continuously monitor the unit's operation. This choice of operational modes allows the SRE-1550 to respond to the requirements of a wide variety of installations.

***NOTE : The SRE-1550 is shipped in the MULTI-USER/DIAGNOSTIC MODE.***

## MULTI-USER/DIAGNOSTIC MODE

Provides full range of Audio diagnostic notices:

- ***Circuit Board Power Up**: Chirp
- ***Safety Device Activated**: Chirp
- ***Elevator Stopped Off Charge Bumper**: 5 Beeps (4 short and 1 long)
  Repeats every 3 minutes until the Elevator is returned to the bumper.
- ***Seat Safety Disengaged**: Chirp repeats every 3 seconds until seat safety switch is re-engaged.
- ***Battery Voltage Drop**: 5 Beeps (3 short and 2 long)
  Repeats every 4 minutes until seat safety switch is disengaged, the battery voltage increases, or the switch is pressed.
- ***Battery Voltage Critical**: 5 Beeps (2 short and 3 long)
  Repeats once a minute until the voltage exceeds 16V or the switch is pressed.
- ***Switch Active During Power Up**: 3 Beeps / Pause
  Repeats beeps every 5 seconds until all switches are off.
- ***More Than One Switch Active**: 3 Beeps / Pause/X beeps (number of beeps indicates which switches are active)
  Repeats every 30 seconds until all switches are off.
- ***Transmitter ID Memory Full**: 3 Beeps (1 short and 2 long)

## SINGLE-USER MODE

Provides the same audio diagnostic notices as the Multi-User/Diagnostic Mode, except for the Seat Safety Disengaged notice.

## QUIET MODE

In the QUIETmode, none of the Audible Warning Messages is active.

## BATTERY WARNINGS ONLY MODE

Provides battery audio diagnostic only.

- ***Elevator Stopped Off Charge Bumper**: 5 Beeps (4 short and 1 long)
  Repeats every 3 minutes until Elevator is returned to the bumper.
- ***Battery Voltage Drop** : 5 Beeps (3 short and 2 long)
  Repeats once every 4 minutes until the seat safety switch is disengaged or the battery voltage increases.
- ***Battery Voltage Critical**: 5 Beeps (2 short and 3 long)
  Repeats once a minute until voltage is above 16 V.

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# CIRCUIT BOARD DIAGNOSTICS

*NOTICE:*
*Before touching anything inside the carriage assembly, ground yourself by touching an unpainted metal surface on the unit such as an exposed bolt, or one of the mounting screws on the electrical panel. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.*

### AUDIO REFERENCE

| | |
|---|---|
| Chirp | 0.25 seconds |
| Short Beep | 0.50 seconds |
| Long Beep | 1.50 seconds |
| Pause | 1.00 second |

## Changing the PCB Diagnostic Mode

1. Turn the circuit breaker on the carriage to `OFF'.
2. Remove the left carriage cover.
3. The unit is shipped in the Multi-User Diagnostic Mode. Changes are made via the Number 1 and Number 2 positions on the 4-Ganged DIP Switch.

### 4 GANGED DIP SWITCH

| DIAGNOSTIC MODE | DIP SWITCH POSITION #1 | #2 |
|---|---|---|
| Multi-User | OFF | OFF |
| Single-User | OFF | ON |
| Quiet | ON | OFF |
| Battery Warnings Only | ON | ON |

## Other Circuit Board Features

Also located on the 4-ganged DIP switch are switches #3 Installation and #4 Coast Delay. The coast delay option (Switch #4) has been provided in cases of interference which may cause intermittent operation. The normal setting is 600 mSec. of coast. Should the unit lose the remote call/send signal, this can be increased to 900 mSec. by moving Switch #4 to the `ON' position.

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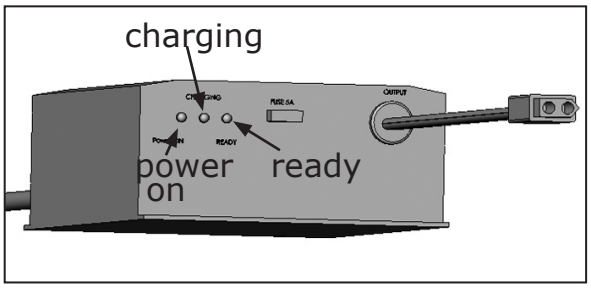
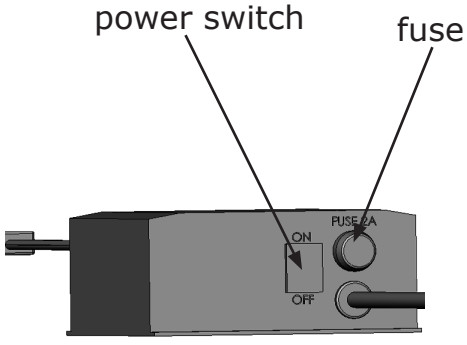
# ELECTRICAL

## Battery charger LED's




| *RED* | *YELLOW* | *GREEN* | *STATUS* |
|---|---|---|---|
| ON | OFF | OFF | charger not connected to battery (AC power ON, no battery connected) |
| ON (5 sec.) | ON (5 sec.) | ON (5 sec.) | battery disconnect situation detected (AC power ON, battery disconnect); 10-second delay until yellow and green LED's completely off |
| ON | ON | OFF | charger at maximum voltage/delivering maximum current |
| ON | SLOW BLINK | SLOW BLINK | batteries close to being fully charged |
| ON<br>ON | ON<br>OFF (Vfloat >27.4V) | ON<br>ON | batteries fully charged |
| ON | BLINK | OFF | low voltage indication |
| ON | OFF | FAST BLINK | battery defective or heavily sulfated |
| ON | BLINK | ON | bad connection or batteries |

## Battery Charger Fuse Replacement




If the charger is subject to a power line surge, the AC input fuse may blow. Refer to the illustration to the left for fuse location.

***To replace fuse:***

1. Turn OFF the battery charger power switch.
2. Remove power cord from wall outlet.
3. Twist the fuseholder cap and pull out to remove the fuse.
4. Replace with the same size and type: (Bussmann GMD-2A or equivalent) 2A, Slo-Blow, 5x20 mm.

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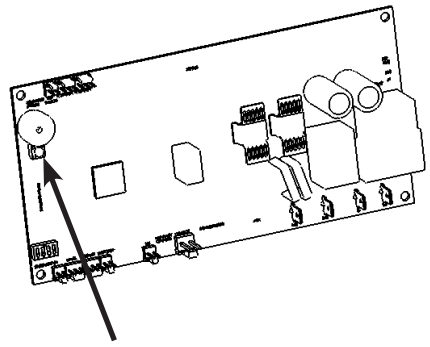
## ***LEARNING THE REMOTE INFRARED TRANSMITTER***

*(not necessary when installing unit for the first time)*



LEARN/ERASE button

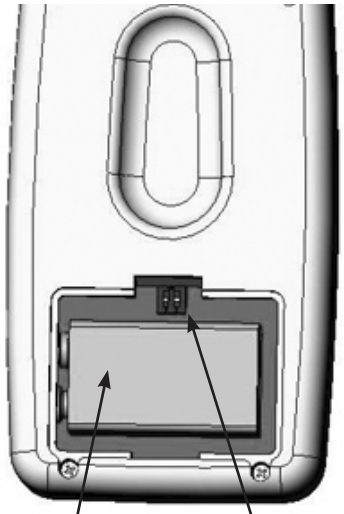
***The operating channel of the two (2) infrared transmitters included with the SRE-2750 is pre-set at the Bruno factory.***

Reasons for relearning transmitters:

- there are multiple units in the same location;
- you have to replace transmitters.

*To relearn a transmitter:*

1. Turn the circuit breaker OFF.
2. Remove the CARRIAGE COVER to expose the circuit board.
3. Locate the LEARN/ERASE button on the circuit board (see left).



9V battery (access panel removed)

SW3 switch

4. On one of the IR TRANSMITTERS, remove the battery access panel.

   *NOTE: If the transmitter is mounted to a wall, unscrew the (2) mounting bracket screws, turn the transmitter over and remove the battery access panel.*
5. On the TRANSMITTER board, locate the switch labelled "SW3" (see left).
6. Change the configuration for switches 1 and 2.

   *Note: There are four possible configurations:*
   - *1 up, 2 down (default manufacturer's setting)*
   - *1 up, 2 up*
   - *1 down, 2 up*
   - *1 down, 2 down*
7. Once you have changed the switch positions:
   - turn on the CARRIAGE circuit breaker;
   - wait until you hear a BEEP.

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# ELECTRICAL

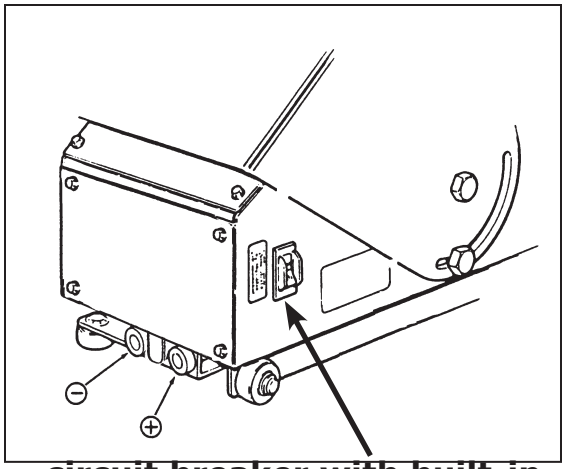
## ***LEARNING THE REMOTE INFRARED TRANSMITTER***

*(not necessary when installing unit for the first time)*

8. ***Clear the memory***:
   - Hold down the LEARN/ERASE button until the LED goes out (approximately 12 seconds).
9. Press and hold the LEARN/ERASE button (LED is on). As you continue to press the LEARN/ERASE button, press either of the call/send transmitter buttons until the LEARN/ERASE LED goes out (approximately 2-5 sec.).
10. Release both buttons (LEARN/ERASE and transmitter).

    The remote is now "learned".
11. ***Test transmitter operation***:
    - Depress either of the transmitter buttons.
    - If the carriage moves, the new configuration has been accepted and the transmitter relearned.
    - If the carriage does not move, repeat Steps 8 through 10.
12. Make sure all transmitters are set to the same switch configuration.
13. Remount the transmitter back (remount on wall if applicable).
14. Remount and secure the carriage cover.

## ***CIRCUIT BREAKER***



**circuit breaker with built-in ON/OFF switch**

The on/off switch is built into the circuit breaker provided to protect the battery, controller and motor circuits in the Elevator carriage.

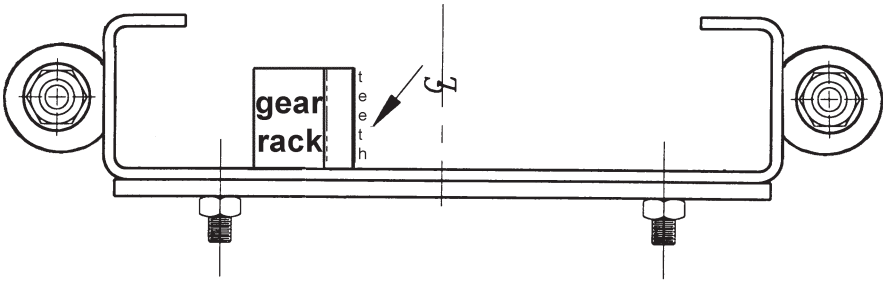
It is unlikely that this circuit breaker will ever trip in normal use. However, if the elevator should fail to operate, as a first troubleshooting step, check the circuit breaker. Then determine what caused the circuit breaker to trip and correct the problem.

Most likely causes of a tripped circuit breaker:

- foreign object jamming the rail or gear rack
- overloading the elevator (exceeding its rated load capacity).

***PRIOR TO LUBRICATION***
run the carriage up and down the rail 5-6 times. This will clean the paint chips out of the gear rack. Vacuum or brush the gear rack and rail to remove any paint chips loosened during this operation. Once the gear rack and rail are clean and free of paint debris, proceed with lubrication.

These instructions apply to carriages with *nylon wheels.* If you are lubricating a carriage with **steel wheels**, apply the grease to the rail *and* the gear rack teeth.




Apply a light coating of white lithium grease to the gear rack teeth only.

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# TESTING ELEVATOR OPERATION

## ***TESTING ELEVATOR OPERATION***

A slight delay will occur between the time the rocker switch is depressed and the start of carriage movement.

*This is normal and is a function of the soft start feature of the controller.*

***The elevator should travel noticeably faster going up than down.***

1. With the seat in the ***central riding position***, power the elevator completely down and up the rail **using the rocker switch on the seat arm**.

   The unit should operate in such a way that the arrow depressed on the rocker switch corresponds to the desired direction of travel.

2. Observe the elevator-to-wall clearance.

   *A clearance of 1/2" to 1" is acceptable.*

3. Check that sufficient clearance exists for the call/send antenna over the entire rail.

4. Run the elevator up and down the stairs with the remote call/send transmitter.

5. Repeat Step 4 with the second transmitter.

6. Raise the seat to the folded position.

7. Run the elevator completely up and down the rail with the seat arm rocker switch and then with each of the transmitters.

8. If necessary, adjust the rail placement by sliding it closer to, or further from the wall.

9. Verify proper operation of:
   - speed
   - direction
   - final limit switch
   - footrest safety switch
   - seat swivel safety switch
   - remote call/send transmitter.

10. ***Train the customer to use the stairway elevator correctly and safely.***

    ***Be sure to have the customer operate the unit while you are there to answer any questions or concerns.***

    ***Remind the customer to always use the seat positioning belt.***

# CONVERSION TO RIGHT-HAND INSTALLATION

***The <u>circuit breaker must be turned OFF</u> while changing from left-hand to right-hand installation.***

***Otherwise, the board will not accept the change.***

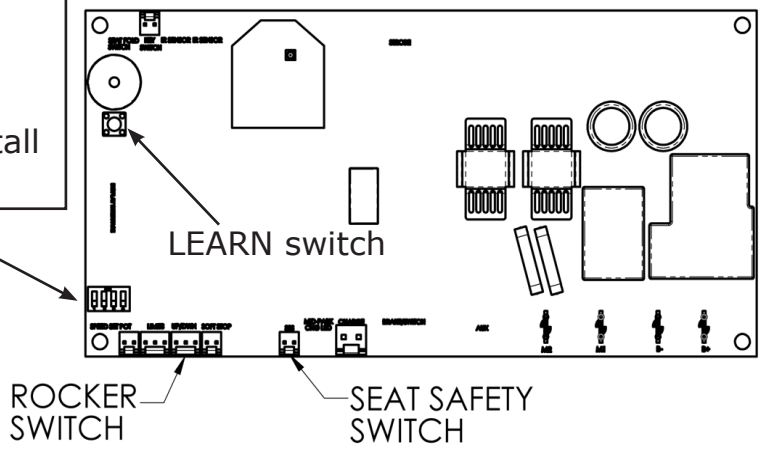
As shipped from the factory, the Electra-Ride™ II is set up for left-side installation (**as viewed from the bottom of the stairs**).

To convert the elevator for right-side installation:

1. Make sure the circuit breaker switch on the rear of the carriage is in the OFF position.
2. Remove the left side carriage cover (the cover without the speed control).
3. Set the No. 3 DIP Switch on the 4-ganged dip switch to the **ON** position.

<u>4-ganged DIP switch</u>

- switch 1 = diagnostic
- switch 2 = diagnostic
- switch 3 = right-hand install
- switch 4 = coast delay




## *CHANGING CONTROLS FROM RIGHT TO LEFT ARMREST*

1. Remove the switch housing weldment by removing the Torx head machine screw under the arm. The trim holding the harness on the backside of the arm slides off.
2. To disconnect the harness under the seat, remove the seat hinge nut.
3. Slide the harness cable guide off.
4. Reinstall the seat hinge nut.
5. Remove the 2 screws from the swivel switch cover, then remove the cover.

*(continued on next page)*

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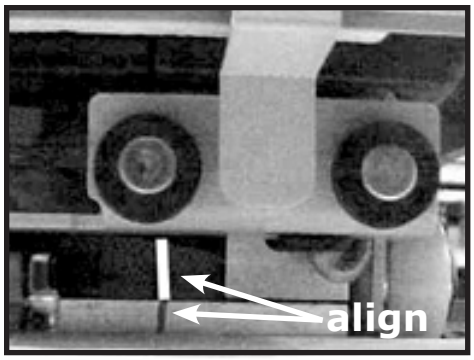
6. Unplug the switch harness, and remove the grommet.
7. Slide the grommet onto the other side of the swivel switch cover, and reconnect the harness.
8. Reassemble the cover using the 2 screws.
9. Remove the seat hinge nut, and install the harness guide on the opposite side.
10. Fasten the switch housing on the left arm. Slide the trim over the harness on the backside of the arm.

## *OVERSPEED — COMMERCIAL UNITS ONLY*



looking at end of carriage

### OVERSPEED ALIGNMENT

Before installing the carriage, the overspeed cam must be adjusted to line up with the overspeed housing.

1. Looking at the end of the carriage, align the white mark on the cam with the white mark on the overspeed housing.
2. Slide the carriage on the rail, making sure not to alter the alignment.

### RESETTING THE OVERSPEED

If the overspeed is tripped during installation or service operations, reset the cam by rotating it back to its detent position.

By by-passing the overspeed switch and running up the drive unit, it is possible to manually rotate the cam.

In the event of a failure which activates the overspeed, it will be necessary to remove the complete drive unit from the rail, and to return the unit to the dealer or manufacturer for diagnosis and repair before putting the unit back into service.

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## SPEED ADJUSTMENT

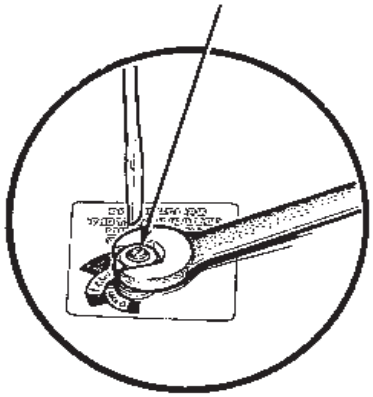
**speed adjustment potentiometer**

The ***Speed Adjustment Potentiometer*** is located on the top of the carriage.

To adjust:

1. Loosen the collet nut on the speed control potentiometer approximately one-half turn.
2. Turn the potentiometer completely in the counterclockwise direction.

   ***This is the starting point.***
3. Turn the Potentiometer in the clockwise direction, aligning the slotted shaft with the weight range of the user.
4. The speed may be adjusted by turning the slotted shaft on the Potentiometer (clockwise = faster, counterclockwise = slower).
5. With the customer seated on the unit, perform several test runs to arrive at the most to appropriate speed setting.
6. When the speed has been set satisfactorily, retighten the collet nut.
7. Recheck the speed.



CW = faster
CCW = slower

**Turn potentiometer counterclockwise.**

**THEN**

**Turn clockwise, aligning slotted shaft with weight range of customer**

## SEAT HEIGHT ADJUSTMENT-Residential and Commercial Units

1. Remove footrest assembly, then gently pull the extra wire from the hole in the pivot bolt.
2. Remove the bolt in the outer mounting tube.
3. Adjust the seat height, replace thebolt and secure.
4. Reinsert the extra wire in the pivot bolt.
5. Replace the footrest assembly.

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# MAINTENANCE

## YEARLY MAINTENANCE OPERATIONS

- Clean rails, racks and wheels. *Regrease.*
- Check for dry and/or worn belts. *Lubricate.*
- Check rail wear. *There should be no groove.*
- Clean charging contacts (both carriage and rail ends) withScotch Brite®.
- Check battery voltage (load test).
- Check safety switches (footrest, carriage, seat).
- Check armrest switch and keyswitch (if applicable).
- Check battery charger output:
- Load test using remote controls:
    - Check voltage while carriage is traveling up.
    - Test with carriage against contacts.
    - Test with carriage away from contacts.
    - Check contacts and lights.
- Check speed.
- Check seat belt for wear and proper operation.
- Examine exposed wiring. *Are there any cuts or abrasions?*
- Verify operation of seat swivel mechanism. *Does it move easily andlock in place correctly?*
- Check that all hardware is properly tightened.

| | |
|---|---|
| **UNIT FAILS TO OPERATE** | • Check circuit breaker. *Reset if necessary*.<br>• Check battery connections.<br>• Check to see if footrest safety switches have been depressed.<br>*Safety tray below footrest should slide freely not stick in a position which could depress the safety switches.*<br>• Check battery charge. *Battery voltage should be in a range of 16-28 VDC.* |
| **UNIT OPERATES SLOWLY, LACKS POWER** | • Check setting of speed control potentiometer.<br>• Check for loose connections.<br>• Check that charger is plugged in, turned on and operating properly. |
| **CONTROLS OPERATE BACKWARDS AND UNIT GOES "UP" SLOWLY AND "DOWN" FAST** | • Unit has been connected for left-hand operation but is installed on the right-hand side of the stairs (or vice versa).<br>• Make correct connections (see *Reversing Operations* in the installation manual). |
| **UNIT OPERATES ERRATICALLY OR INTERMITTENTLY WITH REMOTE CALL/SEND** | • Check all safety mechanisms, including swivel seat safety switch.<br>• Change the delay setting on the receiver board to 900 mSec.<br>• Reorient the transmitter (to point directly at the carriage).<br>• Consult your dealer, an experienced technician or contact the Bruno Technical Service Department. |

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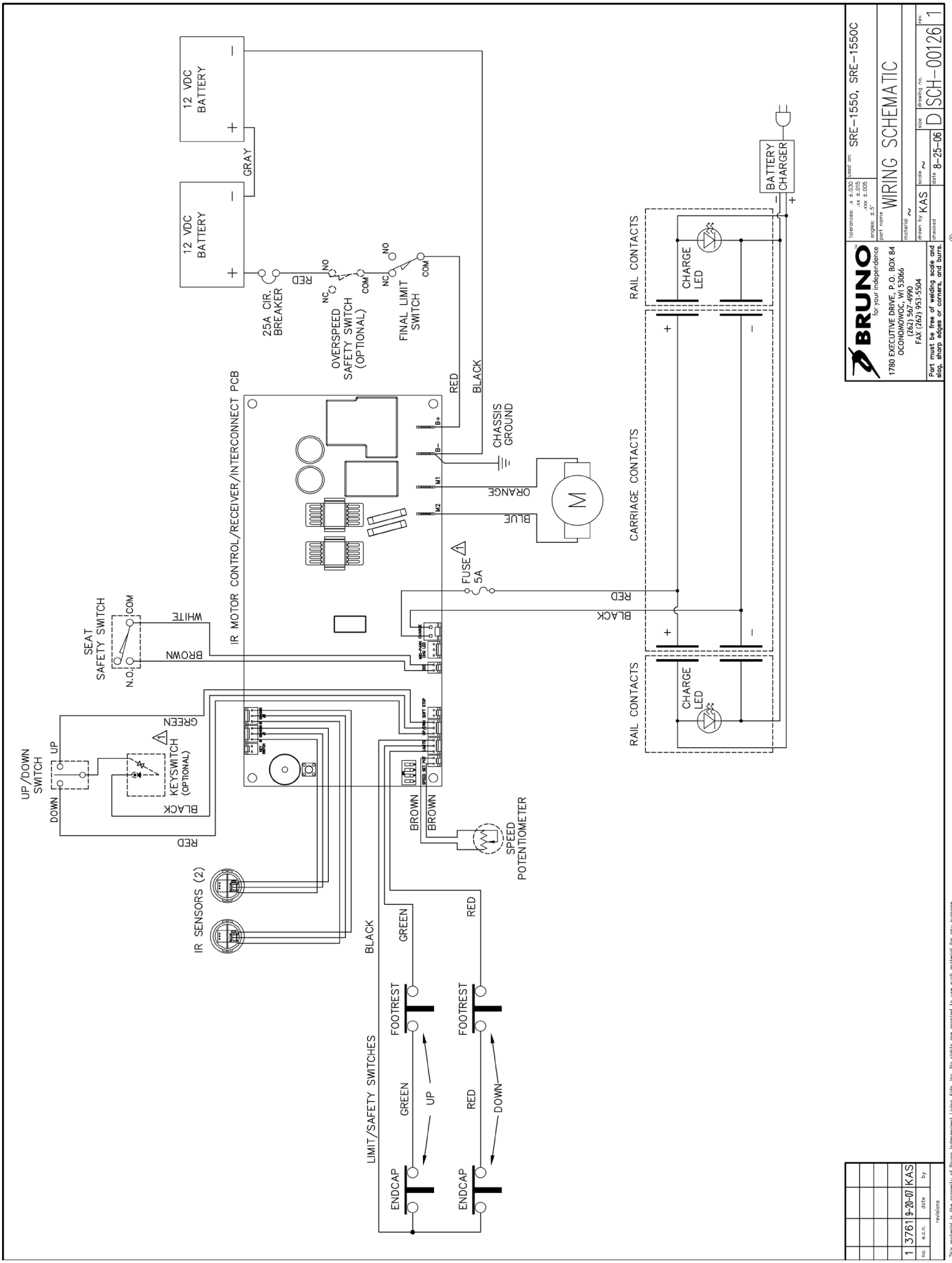
# TROUBLESHOOTING

| | |
|---|---|
| **UNIT OPERATES ERRATICALLY OR INTERMITTENTLY WITH A RIDER USING THE ARMREST-MOUNTED CONTROL SWITCH** | • Check swivel seat safety switch.<br>• Check that the footrest safety tray is not dragging on the stair nosing or hitting debris on the stairs.<br>*If necessary, reposition the stair rail mounting brackets to correct the problem.*<br>• Check the rail for debris that may contact safety switches (footrest and carriage panels). |
| **UNIT WILL NOT OPERATE UNLESS THE SEAT IS POSITIONED SO THAT IT FACES THE OPEN SIDE OF THE STAIRS** | • This is correct lift operation.<br>• A safety switch in the seat swivel prevents the unit from operating with the seat "out of position". |
| **UNIT WILL NOT OPERATE WITH CALL / SEND REMOTE** | • Check batteries in remote call/send unit.<br>• Aim transmiter at the carriage<br>• Transmitters must be `learned' to receiver. |
| **UNIT DOES NOT SHUT OFF WHEN IT HITS THE BUMPER AT THE END OF THE RAIL** | • Connections were not made correctly when changing unit from left-side to right-side installation.<br>*Consult wiring diagram in installation manual.*<br>• Verify correct operation of limit switch in carriage assembly. |
| **ROUGH OR CHATTERING RIDE** | • Wipe down rail.<br>• Apply a small amount of grease to the *gear rack* ***only*** |

# WIRING SCHEMATIC

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OCONOMOWOC, WI 53066
(262) 567-4990
FAX (262) 953-5504

tolerances: .x ±.030, .xx ±.015, .xxx ±.005, angles ±.5°
used on: SRE-1550, SRE-1550c
part name: WIRING SCHEMATIC
material: ~
drawn by: KAS
checked:
scale: ~
size: D
drawing no.: SCH-00126
rev.: 1
date: 8-25-06

Part must be free of welding scale and slag, sharp edges or corners, and burrs.

| no. | e.c.n. | date | by |
|---|---|---|---|
| 1 | 3761 | 9-20-07 | KAS |

revisions

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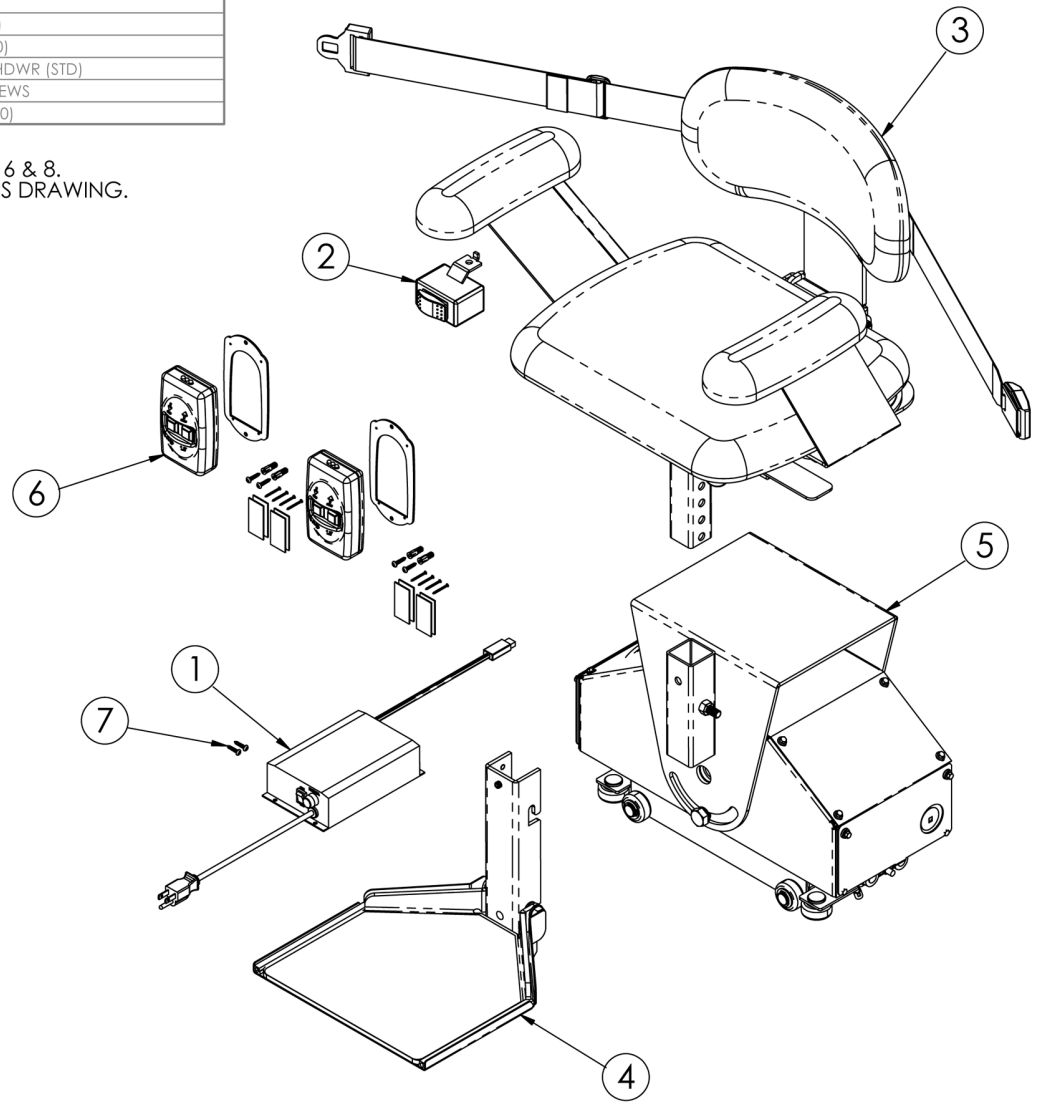
# 'ELECTRA-RIDE II'

| ITEM NO. | Default/QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 1 | BCR-24018 | 24VDC 2A CLIPLIGHT SWITCHMODE BATTERY CHARGER |
| 2 | 1 | SRE-00384 | SWITCH HOUSING ASSEMBLY (SRE-00528) |
| 3 | 1 | SRE-00528 | SEAT ASSEMBLY (SRE-1550) |
| 4 | 1 | SRE-00529 | FOOTREST ASSEMBLY (1550) |
| 5 | 1 | SRE-00668 | CARRIAGE ASSEMBLY (1550) |
| 6 | 2 | SRE-00923 | IR TRANSMITTER/BRACKET/HDWR (STD) |
| 7 | 1 | SRE-K-1518 | CHARGER MOUNTING SCREWS |
| 8 | 1 | SRE-K-1556 | COMPLETE 16' RAIL KIT (1550) |

NOTE:
OPTIONAL EQUIPMENT IS AVAILABLE FOR ITEMS 2, 3, 6 & 8.
THE MOST COMMON OPTIONS ARE SHOWN FOR THIS DRAWING.




## EXPLODED VIEW / BILL OF MATERIALS

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**SRE-1550**
**SHEET 1 OF 2**
**REV. 8 (3512)(11-10-06)(KAS)**

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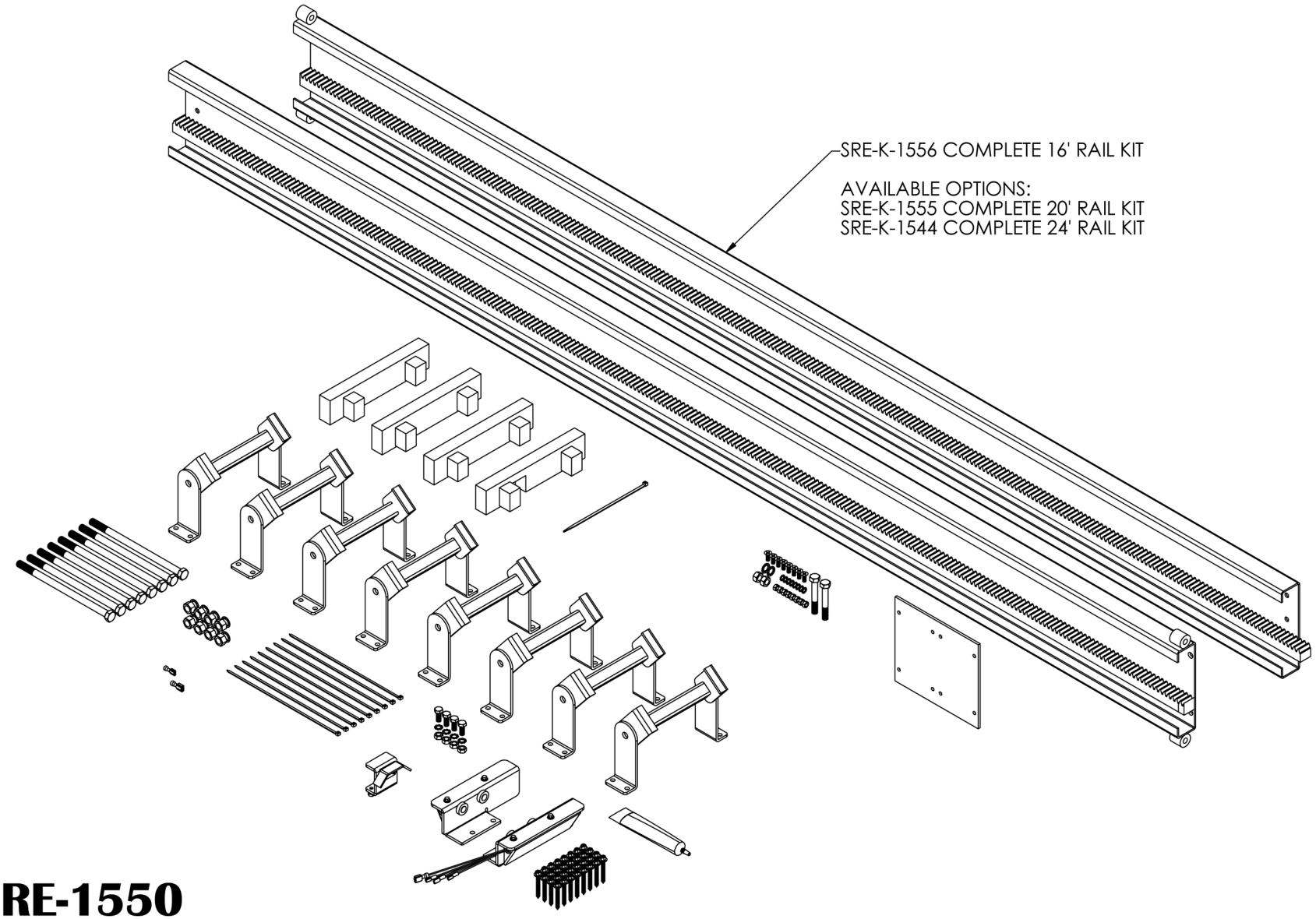
# 'ELECTRA-RIDE II'




## EXPLODED VIEW / BILL OF MATERIALS

**SRE-1550**
**SHEET 2 OF 2**
**REV. 8 (3512)(11-10-06)(KAS)**

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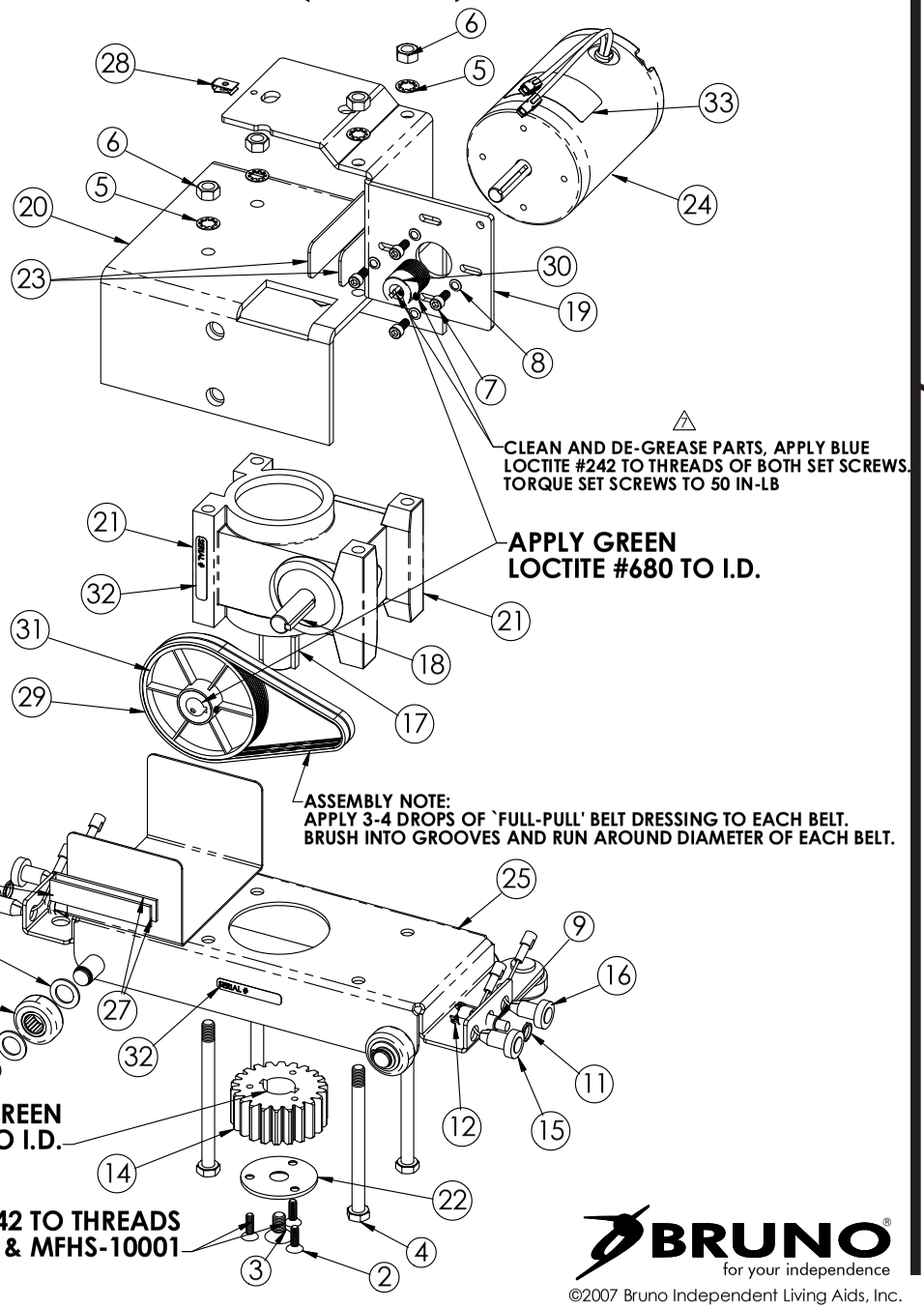
# CARRIAGE BASE ASSEMBLY (1550)

| ITEM NO. | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 12 | FSW-63003 | 5/8" I.D. X 1" O.D. X .062" THK FLAT WASHER |
| 2 | 3 | MFHS-06001 | M6 X 1 X 20mm LG FLAT SOCKET HEAD CAP SCREW |
| 3 | 1 | MFHS-10001 | M10 X 1.5 X 20mm LG FLAT HEAD SOCKET CAP SCREW |
| 4 | 4 | MHCS-10005 | M10 X 1.5 X 130MM LG HEX HEAD CP SCREW |
| 5 | 4 | MITW-10001 | M10 INTERNAL TOOTH WASHER |
| 6 | 4 | MNPL-10150 | M10 X 1.5 HEX NUT (PLATED) |
| 7 | 4 | MSHS-06001 | M6 X 1 X 14mm LG SOCKET HEAD CAP SCREW |
| 8 | 4 | MSLW-06001 | 6MM SAFETY WASHER (6.5MM X 10MM) |
| 9 | 2 | PBS-00102 | SPST NC PUSHBUTTON SWITCH (.75A SCREW TERMINAL) |
| 10 | 2 | ~ | HEXAGON LOCKNUT (PBS-00102) |
| 11 | 2 | ~ | HEXAGON FACENUT (PBS-00102) |
| 12 | 4 | ~ | TERMINAL SCREW (PBS-00102) |
| 13 | 6 | RTR-63002 | 5/8" RETAINING RING (EXTERNAL/HEAVY DUTY) |
| 14 | 1 | SPG-08203 | SPUR GEAR |
| 15 | 2 | SRE-00088 | CHARGE CONTACT ASSEMBLY (+) |
| 16 | 2 | SRE-00089 | CHARGE CONTACT ASSEMBLY (+) |
| 17 | 2 | SRE-00181 | 1/4" SQ KEY (1.13" LG) |
| 18 | 1 | SRE-00182 | 3/16" SQ. KEY - 1 5/8" LG |
| 19 | 1 | SRE-00377 | MOTOR MOUNT |
| 20 | 1 | SRE-00447 | CARRIAGE BRACKET WELDMENT |
| 21 | 1 | SRE-00452 | SRE GEAR BOX |
| 22 | 1 | SRE-00484 | SPUR GEAR END PLATE |
| 23 | 2 | SRE-00611 | MOTOR MOUNT STABILIZER |
| 24 | 1 | SRE-00634 | MOTOR ASSEMBLY (1/2" SHAFT) |
| 25 | 1 | SRE-00688 | CARRIAGE BASE ASSEMBLY (ORBITAL FORMED) |
| 26 | 6 | SRE-20119 | CARRIAGE WHEEL w/BEARING |
| 27 | 2 | TAP-75000 | 3.5" LG 3/4" WIDE DOUBLE COATED ACRYLIC FOAM TAPE |
| 28 | 1 | UNT-08001 | #8 `U'-NUT (BLACK) |
| 29 | 2 | VBL-17501 | 17.5" J3 POLY-RIB BELT |
| 30 | 1 | VPY-10003 | ∅1" 7 GROOVE `J'-POLY V PULLEY |
| 31 | 1 | VPY-40002 | 7 GROOVE `J'-POLY V PULLEY |
| 32 | 2 | ~ | SERIAL NO. LABEL (SMALL) |
| 33 | 1 | ~ | SERIAL NO. LABEL (LARGE) |


CLEAN AND DE-GREASE PARTS, APPLY BLUE LOCTITE #242 TO THREADS OF BOTH SET SCREWS. TORQUE SET SCREWS TO 50 IN-LB
APPLY GREEN LOCTITE #680 TO I.D.
ASSEMBLY NOTE: APPLY 3-4 DROPS OF `FULL-PULL' BELT DRESSING TO EACH BELT. BRUSH INTO GROOVES AND RUN AROUND DIAMETER OF EACH BELT.
APPLY GREEN LOCTITE #680 TO I.D.
APPLY BLUE LOCTITE #242 TO THREADS OF MFHS-06001 (3) & MFHS-10001

**SRE-00648**
**SHEET 1 OF 1**
**REV. 7 (3791)(10/3/07)(JDE)**

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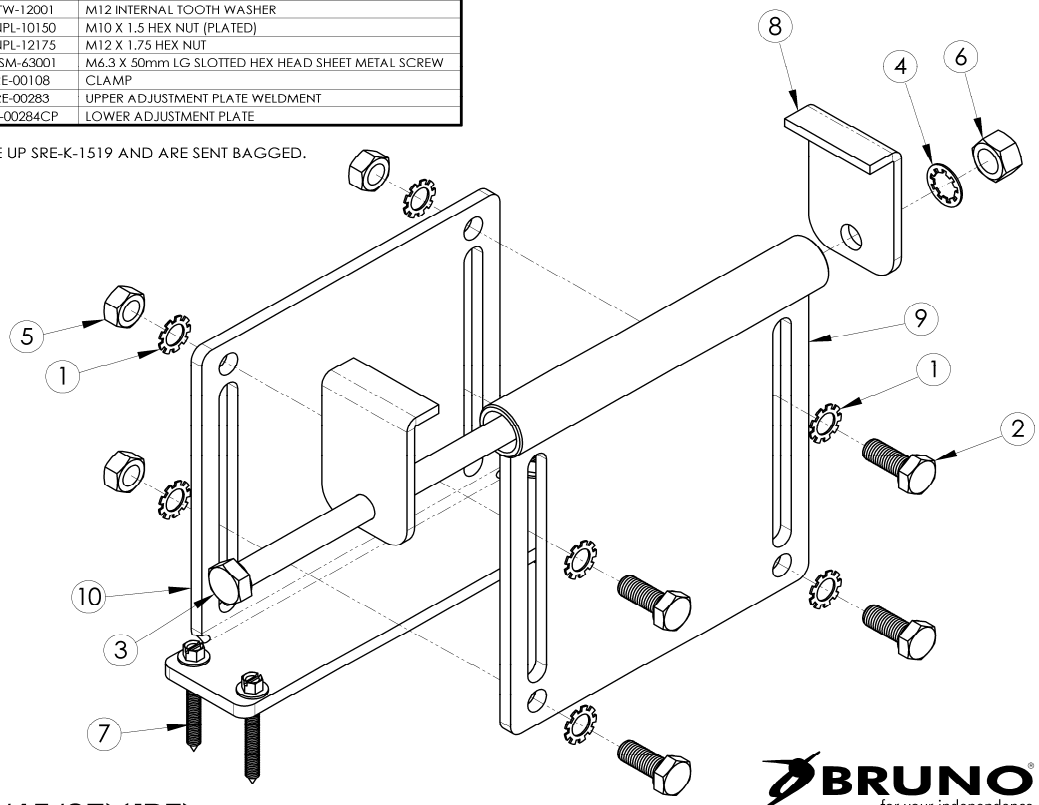
| BRUNO for your independence | Bruno Technical Service<br>1-800-656-0552<br>service@bruno.com | Created By: RJH<br>Approved By:<br>Date: 9-8-05 |

**ILS-00617**
Rev. 1
Page 1 of 1

## ADJUSTABLE CLAMP SET ASSEMBLY

| | ITEM NO. | QTY. | PART NO. | DESCRIPTION |
|---|---|---|---|---|
| * | 1 | 8 | METW-10001 | M10 EXTERNAL TOOTH WASHER |
| * | 2 | 4 | MHCS-10001 | M10 X 1.5 X 25mm LG HEX HEAD CAP SCREW |
| | 3 | 1 | MHCS-12001 | M12 X 1.75 X 220MM HEX HEAD CAP SCREW |
| * | 4 | 1 | MITW-12001 | M12 INTERNAL TOOTH WASHER |
| * | 5 | 4 | MNPL-10150 | M10 X 1.5 HEX NUT (PLATED) |
| * | 6 | 1 | MNPL-12175 | M12 X 1.75 HEX NUT |
| * | 7 | 4 | MSSM-63001 | M6.3 X 50mm LG SLOTTED HEX HEAD SHEET METAL SCREW |
| | 8 | 2 | SRE-00108 | CLAMP |
| ⚠ | 9 | 1 | SRE-00283 | UPPER ADJUSTMENT PLATE WELDMENT |
| ⚠ | 10 | 1 | SRE-00284CP | LOWER ADJUSTMENT PLATE |

NOTE: *ITEMS MAKE UP SRE-K-1519 AND ARE SENT BAGGED.




**SRE-00361**
**SHEET 1 OF 1**
**REV. 4 (3636)(3/15/07)(JDE)**

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**FIVE YEAR MAJOR COMPONENTS WARRANTY**
**TWO YEAR LIMITED WARRANTY**
**for**
**Bruno Stairlifts**

Bruno Independent Living Aids, Inc. ("Bruno"), warrants to the original purchaser of a Bruno Stairlift that the Bruno Stairlift is free from defects in material and workmanship for a period of two years from date of purchase. In addition, Bruno warrants that the motor, gear box and rail (the "Major Components") will be free from defects in materials and workmanship for a period of five years from the date of purchase.

The exclusive remedy for a defect in a Bruno Stairlift shall be the repair or replacement, at the option of Bruno, of the defective part or component. After the first 30 days of this warranty, only parts and components are covered. This warranty does not cover labor and other services after the initial 30 days. If repair or replacement of a Bruno Stairlift is not commercially practical or cannot be timely made, Bruno may elect to refund the purchase price of the Bruno Stairlift instead of repairing or replacing the Bruno Stairlift.

**IN NO EVENT SHALL BRUNO BE RESPONSIBLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER SUCH DAMAGES ARISE FROM CLAIMS BASED ON CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR PRODUCT LIABILITY.** Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

**ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN THEIR DURATION TO THE LENGTH OF THE WARRANTY STATED ABOVE FOR THE AFFECTED COMPONENT.** Some states do not allow limitations on how long an implied warranty lasts so the above limitation may not apply to you.

To obtain warranty service, you must follow these procedures:

1. Obtain return authorization by calling your local Bruno dealer;

2. Return the Bruno Stairlift, freight prepaid, to the address provided by your Bruno dealer or Bruno with proof of purchase indicating the date purchased.

Bruno will pay for shipping back to the purchaser within the continental United States and Canada if a defect in material or workmanship is discovered. Return freight and repair charges will be the responsibility of the purchaser if the problem is not covered by warranty.

This warranty does not cover damage or failure caused by misuse, abuse, accidents, physical damage, modifications not made by Bruno, damage in shipment, or repairs undertaken by anyone other than Bruno factory employees or authorized distributors. The "original purchaser" of a Bruno Stairlift that is leased or rented shall be the person or entity acting as the lessee or rental provider.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Bruno specifically does not authorize any person to extend the time or scope of this warranty.

For further information regarding this limited warranty, please contact Bruno by calling 1-800-882-8183 or writing to Bruno at the following address:

Bruno Independent Living Aids, Inc.
Attention: Service Department
1780 Executive Drive, Post Office Box 84
Oconomowoc, WI 53066 USA

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P/N 1550-I